

BAZARBAYEV, Koshkar; GLADYSHEVA, Ye.N., otv.red.; ZHUKOVA, N.D., red.;  
MOSKVICHEVA, L.N., red.; BOROKINA, Z.P., tekhn.red.

[Economic geography of Kustanay Province] Kustanaiskaya oblast';  
ekonomiko-geograficheskaya kharakteristika. Alma-Ata, Izd-vo Akad.  
nauk Kazakhskoi SSR, 1959. 189 p. (MIRA 13:9)  
(Kustanay Province--Economic geography)

CHIGARKIN, A.V.; TRIFONOVA, T.M.; SMIRNOVA, R.Ya.; KAZANSKAYA, Ye.A.; VILESOVA, L.A., MUKHAMETZHANOV, S., kand. geologo-miner. nauk; GLADYSHEVA, Ye.N., kand. geogr. nauk; BAZARBAYEV, K.; KUZNETSOVA, Z.V.; AEDRAKHMANOV, S.; NAZARENKO, I.M., kand. geogr. nauk; YESAULENKO, P.I., kand. sel'khoz. nauk; LAVROVA, I.V., kand. ekonom. nauk; PAL'GOV, N.N., akademik, red.; CHEZGANOV, L., red.; NAGIBIN, P., tekhn. red.

[The Virgin Territory; brief studies on nature, population and economy] Tselinnyi krai; kratkie ocherki o prirode, naselenii i khoziaistve. Alma-Ata, Kazakhskoe gos. izd-vo, 1962. 188 p. (MIRA 15:9)

1. Otdel geografii Akademii nauk Kazakhskoy SSR (for all except Chezganov, Nagibin). 2. Akademiya nauk Kazakhskoy SSR (for Pal'gov).

(Virgin Territory—Economic geography)

BAZARBAYEV, M.

"

"Development of Kazakh Literature and Literary Criticism." p. 432. in Science in Kazakhstan during Forty Years of the Soviet Regime. Alma-ata. Izd-vo AN Kazakhskiy SSR, 1957, p. 452. (ed. Satpayev, K. I.)

This is a collection of articles (20) compiled by 24 authors on various aspects of scientific progress in Soviet Kazakhstan. One third of the articles also deal with the progress made in the main fields of industrial endeavor. The articles on the development of Science survey the main contributions made in the respective branches by Kazakh Scientists, and enumerate and describe the existing scientific institutes, organizations, and Universities. A large number of scientists are mentioned and their fields of interest stated.

SATPAYEV, K.; BAISHEV, S.; POLOSUKHIN, A.; CHOKIN, Sh.; AUEZOV, M.;  
MUKANOV, S.; KENESBAYEV, S.; SAURANBAYEV, N.; GALUZO, I.G.;  
BALAKAYEV, M.; MUSABAYEV, G.; MAKHMUDOV, Kh.; ISMAILOV, Ye.;  
SIL'CHENKO, M.; DYUSENBAYEV, I.; BAZARBAYEV, M.; SULEYMEKOVA, B.  
NUSUPBEKOV, A.; SHOINBAYEV, T.; GABDULLIN, M.; ZHARKESHEVA, G.

Sarsen Amanzholov; obituary. Vest. AN Kazakh. SSR 14 no.2:100-101  
P '58. (MIRA 11:2)

(Amanzholov, Sarsen Amanzholovich, 1903-)

BAZARBKOV, N.; TERMINASOV, Yu.S.

X-ray diffraction study of the structure of chemical-conversion  
nickel coatings in wear tests. Izv. AN Kir. SSR. Ser. est. i tekhn.  
nauk 3 no.1:41-50 '61. (MIRA 14:7)  
(X rays--Diffraction) (Nickel plating) (Mechanical wear)

S/137/62/000/006/141/163  
A057/A101

AUTHORS: Bazarbekov, N., Terminasov, Yu. S.

TITLE: Roentgenographic investigation of the structure of nickel coatings, obtained chemically, in abrasion

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 94, abstract 61597 ("KyrgSSR Ilimder Akad. kabarlary. Tabiyat taanu zhana tekhn. ser., Izv. AN KirgSSR. Ser. yestestv. i tekhn. n.", 1961, 3, no. 1, 41 - 50, Kirgiz summary)

TEXT: To obtain Ni-P-coatings on 45 steel the following solution was used (in g/l):  $\text{NiSO}_4$  30, Na-hypophosphate 10, Na-acetate 10 - pH 4.5-5.5. X-ray patterns of the samples were obtained with an YPC-50M (URS-501) device. The coating obtained by chemical nickel plating was amorphous. If this coating is heated the Ni-P-coating changes into a crystalline face-centered cubic structure. The complete transformation from the amorphous into the crystalline state occurs at a thermal treatment of  $400^\circ\text{C}$  which corresponds to the highest micro hardness of the Ni-P-coatings. At a temperature above  $400^\circ\text{C}$  starts the coagulation of the

Card 1/2

Roentgenographic investigation of...

SI/137/62/000/006/141/163  
H057/A101

crystals. The fragmentation of crystal blocks at 400°C does not change with the load, and increases with the path of friction up to a value of the latter equal to 6,000 m. The fragmentation of blocks occurs at 500°C in the initial stage of abrasion at a load of 40 kg with subsequent stabilization. Micro-deformations of the crystalline structure increase with the load in all ways of thermal treatment, but at intensive thermal treatment the growth of micro-deformations stops at smaller testing loads. The growth of micro-deformations in dependence of the path of friction occurs up to 4,000 m. Further testing up to 10,000 m does not change this value. There are 6 references.

Ye. Layner

[Abstracter's note: Complete translation]

Card 2/2

TERLETSKAYA, T.M., dotsent; BAZARCHENKO, M.M., dotsent

Use of a skin test for sensitivity to penicillin. Vrach. delo no, 2:  
126-127 F '61. (MIRA 14:3)

1. Kafedra fakul'tetskoy terapii (sav. - zaplushennyy deyatel' nauki,  
prof. M.A.Yasinovskiy) lechebnogo fakul'teta Odesskogo meditsinskogo  
instituta i otdel revmatologicheskoy kliniki ostrogo revmatizma  
(sav. - prof. M.A.Yasinovskiy) Ukrainskogo instituta kurortologii  
i fizioterapii.

(PENICILLIN)



MEYERSON, F.Z.; HAZARDENIAN, A.G.

Inhibition of protein synthesis in the myocardium during compensatory hyperfunction of the heart and the mechanism of the hypertrophy of the heart muscle. Izv. AN Arm. SSR. Biol. nauki 16 no.3:19-26 Apr '63. (MIRA 17:10)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR i Institut kardiologii AN ArmSSR.

BAZARDZHIAN, A.G.; KALEBINA, N.S.; MALOV, G.A.

Effect of vitamin B<sub>12</sub> on the dynamics of protein synthesis  
in the myocardium under conditions of compensatory heart  
hyperfunction. Dokl. AN SSSR 153 no.1:207-208 N '63.

(MIRA 17:1)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR  
i Institut serdechno-sosudistoy khirurgii AMN SSSR. Pred-  
stavleno akademikom N.M. Sisakyanom.

\*

MAYZELIS, M.Ya.; BAZARDZHIAN, A.G.; MEYERSON, F.Z.

Use of the products of glucose decomposition in protein synthesis following the compensatory hyperfunction of some organs. Dokl. AN Arm. SSR 39 no. 3:181-186 '64. (MIRA 18:1)

1. Institut normal'noy i patalogicheskoy fiziologii AMN SSSR. Predstavleno akademikom AN ArmSSR G.Kh.Bunyatyancm.

BAZARDZHIAN, A.G.; LEYKINA, Ye.M.; ANTIPOVA, K.K.

Effect of an agent injuring the chromosomal DNA on the development of compensatory hypertrophy of the heart. Dokl. AN SSSR 155 no. 3:685-687 Mr '64. (MIRA 17:5)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR. Predstavleno akademikom A.N.Bakulevym.

BAZANDZHAN, A.G.; LEYKIN, Ye.M.; ANTIPOVA, E.K.

Role of vitamin B<sub>12</sub> in the activation of the genetic apparatus  
of differentiated cells in the case of their increased  
physiological function. Dokl. AN SSSR 157 no. 2:440-442 J1 '64.  
(MIRA 17:7)

1. Institut normal'noy i patologicheskoy fiziologii AN SSSR.  
Predstavleno akademikom A.N.Iakubovym.

MEYERSON, P.Z.; BAZARDZHIAN, A.G.; IFTKINA, Y.M.; SIMONYAN, N.A.

Senile changes in an organ suffering from prolonged hyperfunction.  
Dokl. AN SSSR 162 no.2:441-444 My '65. (MIRA 18:5)

1. Institut normal'noy i patologicheskoy fiziologii i Institut  
kardiologii i serdechnoy khirurgii AMN SSSR. Submitted December  
8, 1964.

ANDREYEV, L.B., kand.med.nauk; BAZARENKO, N.A.

Analysis of kinetocardiographic deformations caused by the passage of the cardiac impulse through the thoracic wall and methods for their elimination. Kardiologiya 2 no.4:75-79 J1-Ag '62.

(MIRA 15:9)

1. Iz kafedry diagnostiki vnutrennikh bolezney (zav. - prof. V.N.Mikhaylov) Rostovskogo meditsinskogo instituta i kafedry uprugosti (zav. - prof. I.I.Vorovich) Rostovskogo universiteta.  
(CARDIOGRAPHY)

L 9630-66

EWI(d)/T

IJP(c)

ACC NR: AP6000542

SOURCE CODE: UR/0040/65/029/006/1035/1052

AUTHORS: <sup>44, 55</sup> Bazarenko, N. A. (Rostov-na-Donu); <sup>47, 55</sup> Vorovich, I. I. (Rostov-na-Donu)

ORG: none

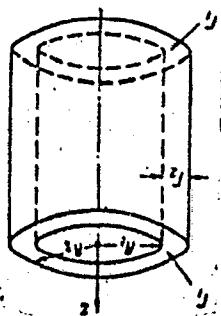
TITLE: Asymptotic behavior of a solution from the theory of elasticity for a flat cylinder of finite length and small thickness

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 6, 1965, 1035-1052

TOPIC TAGS: stress analysis, shell theory, asymptotic property, characteristic equation, elasticity theory

ABSTRACT: A study was made of the stress distribution in a flat homogeneous cylinder of finite dimensions (see Fig. 1)

Fig. 1.



Card 1/3



L 7630-66

ACC NR: AP6000542

under a uniformly distributed axisymmetric load. It is assumed that the cylinder has thin walls and that the stress distribution is governed by the set of equations

$$\frac{1}{1-2\nu} \frac{\partial \theta}{\partial z} + \Delta w = 0, \quad \frac{1}{1-2\nu} \frac{\partial \theta}{\partial r} + \Delta u - \frac{1}{r^2} u = 0$$

where

$$\theta = \frac{\partial w}{\partial z} + \frac{\partial u}{\partial r} + \frac{u}{r}, \quad \Delta = \frac{\partial^2}{\partial z^2} + \frac{\partial^2}{\partial r^2} + \frac{1}{r} \frac{\partial}{\partial r}$$

Using the fact that the solution of the above equations can be obtained in Bessel functions, the following characteristic equation is arrived at

$$\Delta(\mu) = \mu^2 \{ [\xi_1^2 + 2(\nu-1)] [\xi_2^2 + 2(\nu-1)] L_{11}^2 + \xi_1^2 \xi_2^2 L_{00}^2 + \\ + [\xi_1^2 + 2(\nu-1)] \xi_2^2 L_{10}^2 + [\xi_2^2 + 2(\nu-1)] \xi_1^2 L_{01}^2 - \\ - 4(\nu-1) - \xi_1^2 - \xi_2^2 \} = 0$$

$$(L_{jk} = J_j(\xi_1) Y_k(\xi_2) - J_k(\xi_1) Y_j(\xi_2), \xi_1 = \mu R_1, \xi_2 = \mu R_2)$$

where  $\mu$  is a parameter whose value is determined on the basis of conditions satisfied at the cylinder boundaries, and  $\xi = \mu r$ . This characteristic equation is rewritten after the following substitutions are made:  $\gamma = \mu R_1$ ,  $\varepsilon = (R_2 - R_1)/R_1$ , and its various roots are discussed in great detail. These roots are divided into three groups: 1) double roots that are independent of  $\varepsilon$ ,  $\gamma_0 = 0$ ; 2) four roots defined by

$$\gamma_k = \frac{\delta_k}{\gamma_0}, \quad \delta_k = \gamma_{0k} + \varepsilon \gamma_{1k} + \varepsilon^2 \gamma_{2k} + \dots, \quad \gamma_{0k}^4 - 12(\nu^2 - 1) = 0$$

$$\gamma_{1k} = \frac{3}{5}(1-\nu^2) \frac{1}{\gamma_{0k}} - \frac{1}{4} \gamma_{0k}$$

Card 2/3

L 9630-66

ACC NR: AP6000542

$$\gamma_{sk} = \left( \frac{229}{2100} + \frac{1}{15}v + \frac{863}{16800}v^2 \right) \gamma_{sk} + \frac{9}{20}(v^2 - 1) \frac{1}{\gamma_{sk}}$$

increasing as  $1/\sqrt{\epsilon}$  as  $\epsilon \rightarrow 0$ ; 3) even-multiple roots defined by

$$\gamma_k = \frac{\Delta_k}{\epsilon}; \Delta_k = \delta_{0k} + \epsilon^2 \delta_{2k} + \epsilon^4 \delta_{4k} + \dots, \frac{1}{\delta_{0k}^4} (\sin^2 \delta_{0k} - \delta_{0k}^2) = 0$$

$$\delta_{2k} = \frac{2(1-v^2)}{\sin 2\delta_{0k} - 2\delta_{0k}} + \frac{7-8v}{16\delta_{0k}}, \quad \delta_{4k} = -\delta_{2k}$$

increasing as  $1/\epsilon$  for  $\epsilon \rightarrow 0$ . Stress-deformation relations are then obtained for each group of roots. A set of homogeneous solutions is then obtained to satisfy boundary conditions at the cylinder ends under symmetric and skew-symmetric loadings. The homogeneous solution is then compared to a more exact analysis with stress relaxation on the cylindrical part of the boundaries. Orig. art. has: 76 equations and 1 figure.

SUB CODE: 20/ SUBM DATE: 25Jun65/ ORIG REF: 007

Cord 3/3

BAZAREVICH, G.Ya.

Effect of the stimulation of the vagus nerve on respiration  
in experimental peritonitis. Nauch. trudy Kaz. gos. med. inst.  
14:89-90 '64. (MIRA 18:9)

1. Kafedra fiziologii (zav. - prof. I.N.Volkova) Karanskogo  
meditsinskogo instituta.

BAZAREVICH, M.

"A life devoted to our people; collected articles." Reviewed  
by M.Bazarevich, Rab, i sial. 38 no.11:6 N '62. (MIRA 15:11)  
(Mitskevich, Kostantin Mikhailovich, 1882-1956)

BAZAREWSKI, Stanislaw (Warszawa, Al. Niepodleglosci 245)

~~.....~~  
Gowianow-Bracht's method of delivery in pelvic presentation.  
Gin. polska 25 no.3:223-230 July-Sept. 54.

1. Z Oddzialu Polozniczo-Ginekologicznego szpitala MCH w Warszawie.  
Ordynator: plk dr med. St.Bazarewski.  
(LABOR PRESENTATION,  
pelvic, conduction)

BAZAREWSKI, J.

The buckle.

P. 9 ZOLNIERZ POLSKI) (Warszawa, Poland) No. 6, Feb. 1958

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958

BAZAREWSKI, Stanislaw.

Significance of prolonged pregnancy for mother and fetus.  
Gin. polska 28 no.2:149-156 Mar-Apr 1956.

1. Z Oddzialu Ginekologiczno-Polozniczego Szpitala M.O.N. w  
Warszawie. Ordynator: plk. dr. S.Bazarewski. Al. Niepodleglosci  
245, m. 32. Warszawa.

(PREGNANCY

prolonged significance for mother & fetus (Pol))

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

100 AND 150 COLUMNS
NUMERICAL AND PROPERTIES INDEX

BALNRCWSKI, STEFAN  
 Co

The influence of caffeine on the fixation of the free nitrogen by nodular bacteria.

STEFAN BALNRCWSKI. Roczniki Nauk Rolniczych i Leśnych 21, 473 84(484 French) (1929).—Caffeine contributes to the transformation of nodules into bacteroids, but it does not increase their capacity to fix the free N. Addition of 0.03% caffeine or 0.03% thioleone to the cultures lowered the quantity of fixed N to 28.5% and 35.3% resp. of that fixed by cultures controlled without the addition of purine bases. There is no correlation between the formation of bacteroids and the capacity to fix the free N. The bacteroids probably cannot fix the free N of the air.

J KIVIRA

11c

1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000

ASD-SEA METALLURGICAL LITERATURE CLASSIFICATION

1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000





... / Cultivated Plants. Fruits, Berries, Nutbearing, M-6  
Teas.

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6462

Author : Ten, P.; Sokolova, A.; Bazarnaya, L.

Inst : Voronezh State Pedagogical Institute

Title : Experiments on the Propagation of Grapes  
in the Voronezhskaya Oblast'

Orig Pub : Sb. stud. rabot Voronezhsk. gos. ped. in-t,  
1957, vyp 2, 15-19

Abstract : Experiments carried out at the institute  
showed that grapes in Voronezhskaya Oblast'  
can be successfully propagated with grape  
stalks, green scions, and cuttings.

Card 1/1

BAZARNOV, V. M.

PETUKHOV, L. G. - Kand. Arkhitektury, IVANOV, V. T., Arkh., NIKOLAYEV, I. S., Chl.-  
Korr. Akademii Arkhitektury SSSR D-R Arkhtekhtury Prof., BAZARNOV., V. M. - Arkh.

Nauchno-issledovatel'skiy Institut Arkhitektury Obshchestvennykh i Promyshlennykh  
sooruzheniy Akademii Arkhitektury SSSR

Promyshlennyye predpriyatiya

SO: Collection of Annotations of Scientific Research Work on Construction, completed Page 62

in 1950. Moscow, 1951

BAZAROV, V. M.

BAZAROV, V. M.; Arkh. i DOMBROVSKIY, A. A. Kano. Ekonom. Nauk., SMOLENSKAYA, R. M. Arkh.,  
FELZER, YU. S. Inzh.

Nauchno-issledovatel'skiy institut arkhitektury i promyshlennykh sooruzheniy  
akademii arkhitektury SSSR

Razmeshcheniye v mnogoetazhnykh zhilykdomakh moskvy obshchestvennykh uchrezhdeniy i  
obslyuzhivayushchikh pomeshcheniy Page 74

SO: Collections of Annotations of Scientific Research Work on Construction, completed  
in 1950.  
Moscow, 1951

CHISTOV, A.D.; BAZARNOVA, G.V.; REK, N.D.; BELIKOVA, V.I.; BLINOVA, M.Ya.;  
KABANOVA, P.G.; MAKAROVA, M.D.; PRIPISTSOVA, K.D.; SIMONOVA, L.F.;  
TOLKACHEVA, Ye.M.; TYUNYAYEVA, V.V.; ZINCHENKO, V.S., red.isd-va;  
PAVLOVSKIY, A.A., tekhn.red.

[Foreign trade of the U.S.S.R. for 1918-1940; statistical survey]  
Vneshnayaia trgovlia SSSR za 1918-1940 gg.; statisticheskiy obzor.  
Moskva, Vneshtorgizdat, 1960. 1134 p. (MIRA 13:10)

1. Russia (1923- U.S.S.R.) Glavnoye tamozhennoye upravleniye.
2. Otdel statistiki Glavnogo tamozhennogo upravleniya Ministerstva  
vneshney trgovli SSSR (for all, except Zinchenko, Pavlovskiy).  
(Commercial statistics)

BAZARNOVA, M. A.

Significance of the various forms of lymphocytes in clinical  
hematological diseases. Probl. gemat. i perel. krovi no.4:21-25  
'62. (MIRA 15:4)

1. Iz laboratorii gematologii i leykozov (zav. A. P. Zalkina) i  
laboratorii immunogematologii (zav. - prof. V. N. Krainskaya-  
Ignatova[deceased]) Ukrainskogo nauchno-issledovatel'skogo  
instituta perelivaniya krovi i naotlozhnoy khirurgii (dir. -  
dotsent L. A. Rippyakh)

(LYMPHOCITES) (BLOOD--DISEASES)

BAZARNOVA, M. A. Cand Med Sci -- (diss) "The ~~IMMENSE~~ Significance  
of the Fluctuations of the Toxic Granule<sup>th</sup> of Blood Neutrophils in  
Patients ~~the~~ <sup>(suffering from)</sup> With ~~the~~ Cancer<sup>the</sup> of ~~Uterine~~ <sup>uteri</sup> Cervix in the Process  
of Radiation Therapy." Khar'kov, 1957. 10 pp 22 cm. (Min of Health  
Ukrainian SSR, Khar'kov Medical Inst), 200 copies (KL, 26-57, 112)

- 109 -

USSR / General Biology. General Histology.

3

Abs Jour : Ref Zhur - Bioll, No 19, 1953, No 85562

Authors : Bazarnova, N. A.; Ageyev, I. Ya.

Inst : Not given

Title : Neutrophilic Granulosity in Electron Microscopy  
Picture.

Orig Pub : Labor. dolo, 1957, No. 3, 16-19

Abstract : A study by electron microscopy was conducted on blood of healthy humans and patients ill with cancer of the uterine cervix complicated by peritonitis. The neutrophilic granulosity of the patients is polymorphous. Round, oval, rod-shaped, and granules of an indefinite form of a magnitude of 60 x 85 up to 450 x 540 mu are encountered. Large and medium size granules are

Card 1/2

15



USSR/General Problems of Pathology - Comparative Oncology U-1

Abs Jour : Ref Zhur - Biol., No. 18, 1958, 84980

Author : Bazarnova, N.A.

Inst : ~~no institute is given~~

Title : Toxic Granulations in Neutrophilic Leukocytes  
of the Blood in Patients with Carcinoma of the Uterine  
Cervix during Radiation Therapy

Orig Pub : In the collection: Vopr. luchevooy terapii, Kiev,  
Gosmedizdat Ukrainian SSR, 1956, 100-106

Abstract : Determination of the toxic granulations of neutro-  
phils (TGN) in patients with cervical carcinoma of  
stages II, III, and IV showed that prior to treat-  
ment, in the majority of cases, the number of neutro-  
phils with toxic granulations does not exceed ten  
percent. During radiation treatment the number of  
TGN gradually increases. As recuperation occurs,  
the number of TGN gradually declines, reaching a mini-

Card 1/2

BAZARNOVA, S. M.

Dissertation: "The Functional State of the Connective Tissue of the Oral Cavity Under Normal and Pathological Conditions." Cand Med Sci, Moscow Medical Stomatological Inst, Moscow, 30 Jun 54. (Meditsinskiy Rabotnik, Moscow, 11 Jun 54)

SO: SUM 318, 23 Dec. 1954

BAZARNOVA, S.M., assistant

Functional state of the oral connective tissue in experiments and in certain diseases of the mucous membrane. Stomatologiya 35 no.1:16-18 Ja-F '56. (MIRA 9:6)

1. Iz kafedry terapevticheskoy stomatologii (zaveduyushchiy professor Ye.Ye.Platonov) Moskovskogo meditsinskogo stomatologicheskogo instituta (direktor dotsent G.N.Beletskiy)  
(MOUTH--DISEASES) (MUCOUS MEMBRANE)

BAZARNOVA, S.M., kand.med.nauk

Importance of histological examination of the oral mucosa in  
making an early diagnosis of pemphigus. Stomatologiya 37 no.4:  
10-14 Jl-Ag '58 (MIRA 11:9)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof. Ye.Ye Platonov)  
Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dots.  
G.N. Beletskiy).  
(PEMPHIGUS)

BAZANOVA, S.M., dotsent

Morphological changes in the mucous membrane of the oral  
cavity 1 lichen ruber planus. Teo. i prak. stom. no.5:  
83-85. '61 (MIRA 16:12)

1. Iz kafedry terapevticheskoy stomatologii (sav. - prof.  
Ye.Ye.Platenov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PLATONOV, Ye.Ye., prof.; BAZARNOVA, S.M., dotsent

"Pemphigus" by N.D.Sheklakov. Reviewed by E.E.Platonov and S.M.  
Basarnova. Stomatologiya 41 no.4:101 J1-Ag '62. (MIRA 15:9)  
(PEMPHIGUS) (SHEKLAKOV, N.D.)

BAZARNOVA, S.M., dotsent

Infectious diseases in children with a healthy and unhealthy condition of the oral cavity. Teor. i prak.stom. no.6:98-99 '63.

(MIRA 18:3)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof. Ye.Ye. Platonov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

BAZARNOVA, S.M., dotsent

Clinical aspects and treatment of multiform exudative erythema  
with magnesium sulfate. Stomatologiya 43 no.1:81-82 Ja-F'64  
(MIRA 17:4)

1. Kafedra terapevticheskoy stomatologii (zav. - prof. Ye.Ye.  
Platonov) Moskovskogo meditsinskogo stomatologicheskogo insti-  
tuta.



BRADMAN, J. P., 1951

Chem Abs v46

1-25-54

Food

Melanoidin formation and color of bread crust. L. Ya. Auerman, V. L. Kretovich, E. A. Alyakrinskaya, V. M. Bazarova, and R. R. Tokareva (A. N. Bakh Biochem. Inst. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 92, 131-3(1953).—When wheat grain is dried at elevated temp. (180°) the protein-proteinase system undergoes profound changes: water-sol. N, raw gluten content, and its H<sub>2</sub>O-absorbing power decline, with almost complete inactivation of the proteinases. The bread baked from the flour prepd. from such grain has low porosity and high d., owing to poor gas retention. However, the crust of such bread is unusually light in color. This is explained by the lack of proteinase activity since this fact causes a lack of the necessary carbohydrate materials which act as raw materials for melanoidin formation which produces the normal crust color. When maltose, fructose, sucrose, and glycine were added to the deficient flour, the resulting bread had a more pigmented crust; glycine was particularly effective, and the full complement of glycine and one of the disaccharides gave normal color. Thus the color is produced by interaction of reducing sugars with products of protein hydrolysis. G. M. Kosolapoff

SARYCHEV, Boris Georgiyevich; OPARIN, A.I., akademik, retsenzent;  
PRONIN, S.I., spetsred.; BAZARNOVA, V.M., spetsred.;  
MURASHEVA, O.I., red.; SOKOLOVA, I.A., tekhn.red.

[Production and biochemistry of rye bread] Tekhnologiya  
i biokhimiya rshanogo khleba. Moskva, Pishchepromizdat,  
1959. 197 p. (MIRA 13:1)  
(Rye) (Bread)

BAZARNYY, A.P., starshiy inzhener

Leading personnel at the Kiev signaling and communications district. Avtom., telem. i svyaz' 5 no.3:24-25 Mr '61. (MIRA 14:9)

1. 1-ya Kiyevskaya distantiya signalizatsii svyazi Yugo-Zapadnoy dorogi.

(Kiev--Railroads--Signaling)

BAZARNYY, A.P., starshiy inzh.

The communication workers of Kiev. Avtom., telem. i svyaz' 5  
no.10:25 0 '61. (MIRA 14:9)

1. Pervaya Kiyevskaya distantziya signalizatsii i svyazi  
Yugo-Zapadnoy dorogi.  
(Kiev Province--Telecommunication--Employees)

BAZARNYY, A.P., starshiy inzh.

An excellent maintenance of communication lines. Avtom. telem.  
i svyaz' 6 no.4:25-26 Ap '62. (MIRA 15:4)

1. 1-ya Kiyevskaya distantiya signalisatsii i svyazi Yugo-  
Zapadnoy dorogi.  
(Railroads--Communication systems)

BAZARNYY, A.P.

A bearing-out crane beam. Avtom., telem.i sviaz' 6 no.11:42  
N '62. (MIRA 15:11)

1. Starshiy inzh. 1-y Kiyevskoy distantzii signalizatsii i svyazi  
Yugo-Zapadnoy dorogi.  
(Cranes, derricks, etc.)

BAKALY, I.

USSR (600)

"Rational system for excavating and hauling earth."  
Zhil. -khoz. 2, no. 8, 1952.

CHEN, N.G.; BAZARNYY, V.F.

Protective properties of certain passivating agents. Izv. vys.  
ucheb. zav.; khim. i khim. tekhn. 6 no.3:504-510 '63.

(MIRA 16:8)

1. Dneprodzerzhinsky zavod-vtuz, kafedra khimii.  
(Corrosion and anticorrosives)



BAZARON C. Ts.

4838

BAZARON C. Ts. Med. Inst. Lenin, Moscow A method for determination of coagulation time Sovetsk. Med. 1950, 12 (25)

0.1 ml of saline is placed on a slide in a Petri dish, the atmosphere in which is kept saturated by water vapour by means of a strip of wet filter paper. The test is performed at room temperature and in sterile conditions. 0.1 ml. of capillary blood from the finger tip is added to the saline on the slide. By inclination of the dish the coagulation time is determined with the stop-watch. Normal values in healthy subject are 6-8 min. with an average of 7 min. Heyrovsk'y - Prague (II,6)

SO: Excerpta Medica, Section II, Vol 4, No. 9

BAZARON, S.TS., kandidat meditsinskikh nauk (Moscow).

Apparatus for determining blood coagulation time. Sov.med.18  
no.3:36-38 Mr '54. (MLRA 7:2)  
(Medical instruments and apparatus) (Blood--Coagulation)

BAZARON, U.B.; DERYAGIN, B.V.; BULGADAYEV, A.V.

Shearing elasticity of liquids and their boundary layers  
investigated by a dynamic method. Dokl. AN SSSR 166  
no.3:639-642 Ja '66. (MIRA 19:1)

1. Buryatskiy kompleksnyy nauchno-issledovatel'skiy institut  
Sibirskogo otdeleniya AN SSSR i Institut fizicheskoy khimii  
AN SSSR. 2. Chlen-korrespondent AN SSSR (for Deryagin).  
Submitted July 24, 1965.

36470

S/181/62/004/003/009/045

B102/B104

24.7900

AUTHORS: Pil'shehikov, A. I., Slovokhotova, Z. D., and Bazarov, U. B.

TITLE: Dependence of the resonance field in ferrite single crystals on temperature and sample dimensions

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 629 - 633

TEXT: The resonance field strength

$$H_{\text{res}} = \frac{\omega}{\gamma} + \alpha \frac{|k_1|}{M} + \frac{4\pi^2}{90} \cdot 4\pi M (b+5) \left(\frac{d}{\lambda}\right)^2 \quad (3)$$

in an anisotropic spherical single crystal (manganese ferrite) was measured as dependent on temperature and crystal orientation with respect to the external magnetic field.  $\omega/\gamma$  is the resonance field for an isotropic sphere,  $\gamma$  - gyromagnetic ratio,  $k_1$  - first anisotropy constant,  $M$  - saturation magnetization;  $\alpha$  depends on the crystallographic orientation ( $[100]$  :  $\alpha=2$ ,  $[111]$  :  $\alpha=4/3$ ,  $[110]$  :  $\alpha=1/2$ ).  $d/\lambda \ll 1$ ,  $d$  - sample diameter,  $\lambda$  - vacuum wave length. The measurements were carried out in a waveguide ( $\lambda \approx 3$  cm) in which the sample was placed at a distance of  $\lambda/2$  from the closed end and directed with the face  $(1\bar{1}0) \parallel H_{\text{ext}}$ . A rotator, a heating coil, and a

Card 1/3

Dependence of the ...

S/181/62/004/003/009/045  
B102/B104

thermocouple were included in the arrangement. Measurements were made with single crystal specimens, cut into spheres of different diameters, as well as with one specimen whose diameter was successively reduced. The results of both experiments are similar. For  $H \parallel [100]$ ,  $H_{res}$  decreases with increasing temperature, for  $H \parallel [111]$ ,  $H_{res}$  has a maximum. In all cases  $H_{res}$  grows with the sample diameter. With  $H \parallel [100]$  the  $H_{res}(t)$  curves have a point of inflection, with  $H \parallel [110]$  they decrease monotonically with increasing  $t$ . The measurements were made in the range  $0 < t < 250^\circ\text{C}$ . The course of the curves can be explained by assuming that up to  $\sim 80^\circ\text{C}$ ,  $H_{res}(t)$  is mainly determined by  $K_1(t)$ , but at higher temperatures by  $M(t)$  or perhaps by  $\epsilon(t)$ . The field of propagation is a linear function of  $(d/\lambda)^2$  within the limits of error. There are 5 figures and 4 references: 2 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: R. A. Hurd. Canadian J. Phys. 36, 1072, 1958; J. E. Mercereau. Journ. Appl. Phys. Suppl. 30, No. 4, 184, 1959.

Card 2/3

ACC NR: AP6036046

SOURCE CODE: UR/0056/66/051/004/0969/0982

AUTHOR: Bazaron, U. B.; Deryagin, B. V.; Bulgadayev, A. V.

ORG: Buryat Scientific Research Institute for Comprehensive Studies, Siberian Department, Academy of Sciences SSSR (Buryatskiy kompleksnyy nauchno-issledovatel'skiy institut Sibirskogo otdeleniya Akademii nauk SSSR); Institute of Physical Chemistry, Academy of Sciences SSSR (Institut fizicheskoy khimii Akademii nauk SSSR)

TITLE: Measurement of the shear elasticity of fluids and their boundary layers by a resonance method

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 4, 1966, 969-982

TOPIC TAGS: shear modulus, shear stress, liquid property, elasticity theory, boundary layer, viscous fluid

ABSTRACT: This is a continuation of earlier work by one of the authors (Deryagin, ZhFKh v. 3, 1, 1932) in which it was shown that thin layers of water between two glass surfaces have a measurable shear modulus. The present article is devoted to the development of a method of measuring such a shear modulus more precisely, at very small shear deformation amplitudes and at higher frequencies. Another purpose was to detect and measure the modulus for films considerably thicker than the boundary layers yet thin enough so that negligible damping of the shear waves occurs within them. The change in the resonance frequency of a piezoelectric quartz crystal, induced by the

Card 1/2

ACC NR: AP6036046

presence of a liquid film on a crystal face under a quartz cover plate, is measured for very small vibration amplitudes. For low-viscosity liquids (water and benzene) the shear modulus is found to be of the order of  $10^4 - 10^5$  dyne/cm<sup>2</sup>. With increase in the crystal vibration amplitude, the effective shear modulus decreases and the relative influence of the dissipative forces increases. For nonpolar liquids, the shear modulus remains unchanged at all distances from the quartz surface, whereas for polar liquids (water, alcohol, etc.) it increases sharply upon approaching to within 600 - 900 Å of the surface. The shear modulus for very thin water films is found to be in qualitative agreement with the earlier measurements. The construction of the quartz crystal and the experimental procedure are described in detail. The theory of the method and the appropriate calculations are given. The results demonstrate that volume shear elasticity exists in all liquids and can be measured by this method. It is concluded that the thin boundary layers of polar liquids possess special mechanical properties that result from a higher degree of molecular ordering than in the interior of the liquids. Orig. art. has: 10 figures, 16 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 06Dec65/ ORIG REF: 019/ OTH REF: 002

Card 2/2

1. The first part of the document is a letter from the

2. The second part of the document is a letter from the



"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204110008-5

DECLASSIFICATION OF THE FOLLOWING DOCUMENT IS AUTHORIZED BY THE NATIONAL ARCHIVES

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204110008-5"

WINDMILL, Eng. A.

"Use of a windmill to power equipment in the separating section."  
Mol. prom. 13, no. 9, 1952

PISHCHIK, M.A., BAZAROV, A.R., insh.

Mechanized making and placing of aerated concretes and  
mortars. Bet. 1 shel.-bet. no.3:135-138 Mr '60.

(MIRA 13:6)

(Great Britain--Lightweight concrete) (Mixing machinery)  
(Pumping machinery)

FRENKEL, P.M.; AYZENBERG, Ya.M.; BAZAROV, A.R.; PISHCHIK, M.A.;  
CHETYRKINA, V.G.; SHISHKIN, R.G.; KOSENKO, I.S.; RUBINCHIK,  
M.I.; AVRAMENKO, V.N.; ALEKSANDROV, M.M.; VASIL'YEV, V.A.,  
red.

[Use of prestressed reinforced concrete in foreign  
countries] Primenenie predvaritel'no napriazhennogo zhe-  
lezobetona za rubezhom. Moskva, Stroizdat, 1964. 85 p.  
(MIRA 17:6)

BAZAROV, B.

Two new species of scale insects (Homoptera, Coccoidea) from Tajikistan. Dokl. AN Tadzh. SSR 6 no.2:38-42 '63. (MIRA 17:4)

1. Institut zoologii i parazitologii imeni akademika Ye.N.Pavlovskogo AN Tadzhikskoy SSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy ssr M.N.Narzikulovym.

BAZAROV, B.

Fauna of scale insects of the Kondara Gorge. Izv. Otd. khol.  
nauk AN Tadsh. SSR no.1:64-78 '63. (MIRA 17:10)

1. Institut zoologii i parazitologii im. akademika Ye.N.  
Pavlovskogo AN Tadshikskoy SSR.

TUYSK, Aleksandr Gansovich; BAZAROV, B.M., spets. red.; KHANTAYEV,  
P.I., spets. red.; SUMAKHIN, A.N., red. izd-vz

[Development of the mining industry in the Buryat A.S.S.R.]  
Razvitie gornoj promyshlennosti Buriatskoi ASSR. Ulan-Ude,  
Buriatskii kompleksnyi nauchno-issledovatel'skii in-t, 1961.  
86 p. (MIRA 16:6)

(Buryat A.S.S.R.—Mineral industries)

BAZAROV, D.B.

Periodical fluctuations of the level of Lake Gusinoye and the  
formation of its basin. Kraeved. sbor. no.6:43-47 '61.

(MIRA 15:2)

(Gusinoye, Lake)



BAZAROV, D.B.

Studying the relief and Quaternary sediments of the Selinga central  
mountain region. Kraeved. sbor. no.7:43-55 '62. (MIRA 16:8)  
(Selinga Valley--Geology, Structural) (Selinga Valley--Geomorphology)

BAZAROV, I.

Ustanovki dlia Regeneratsii Otrabotannykh Avtolov (Equipment for  
Regenerating Used Lubricating Oils) (Paper edition)

96 p. 35 ¢

SC: Four Continent Book List, April 1954

KHADEYEV, V.A.; BAZAROV, I.

Anode amperometric method of the direct titration of indium with complexon III. Usb.khim.shur. 6 no.5:47-53 '62. (MIRA 15:12)

1. Tashkentskiy gosudarstvennyy universitet imeni Lenina.  
(Indium—Analysis) (Conductometric analysis) (Complexons)

BAZAROV, I.P.

The Einstein-Podol'skii-Rosen paradox in quantum mechanics.  
Ist. i metod. est. nark no.3:295-297 '65.

(MIRA 18:12)

BAZAROV, I. P.

Cand. Physicomath Sci.

Dissertation: "Intermittent Processes in the Static Problem of Many Particles."

21/6/50

Moscow Order of Lenin State U. Ineni

M. V. Lomonosov

SO Vecheryaya Moskva  
Sum 71

---

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204110008-5

BAZAROV, I. P.

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204110008-5"

X-Rays

S.A.  
sect. A

537.525.82  
3612. On the theory of stratification of the positive  
column of a gas discharge. I. P. BAKANOV. Zh. Eksp.  
Teor. Fiz. 21, 711-16 (No. 4, 1951) in Russian.  
The theory, taking account of wall influence and  
movement of ions, is developed. The existence, under  
certain conditions, of stratification in the vicinity of  
the anode, is predicted. This has recently been  
observed [Kulakov (1950)], the experimental data  
agreeing satisfactorily with theory. P. GARLON

Moscow State U.

BASHKOV, I. I.

PA 242T88

USSR/Mathematics - Kinetic Equation Feb 52

"Gibbs' Dynamic Equation, Boltzmann's Kinetic Equation and Irreversibility," I. P. Bazarov, Chair of Theoretical Physics

"Vest Moskov U, Ser Fiz, Mat, i Yest Nauk" No 1, pp 75-78

N. N. Bogolyubov in 1946, attempted to derive Boltzmann's kinetic eq from the dynamic eq of statistical mechanics. Author improves this derivation by showing where additional elements have to be introduced into the chain of dynamic eqs of Bogolyubov to obtain Boltzmann's kinetic eq irreversible in time. Received 17 Jul 51.

242T88



"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204110008-5

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204110008-5"

*BAZAROV, I. P.*  
Category : USSR/Electronics - Gas Discharge and Gas-Discharge Instruments

H-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1705

Author : Bazarov, I. P.

Title : On the Leading Factor in the Oscillating Properties of Plasma and on  
Evaluation of the Effect of Gas Atoms on these Properties.

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 2, 426

Abstract : Reply to critical remarks by Luchina (Ref. Zhur Fiz. 1956, 19667)

Card : 1/1

1572 ARCV, I. P.

Category: USSR / Physical Chemistry  
Thermodynamics. Thermochemistry. Equilibrium. Physico-  
chemical analysis. Phase transitions.

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29906

B-8

Author : Bazarov I. P.  
Inst : not given

Title : Concern-ing Some Contradictions of Ehrenfest Theory of Phase  
Transitions of the Second Kind

Orig Pub: Zh. fiz. khimii, 1956, 30, No 5, 1177-1178

Abstract: A discussion article. See RZhKhim, 1955, 48472

Card : 1/1

-21-

BAZAROV, I.P.

SUBJECT  
AUTHOR  
TITLE

USSR / PHYSICS  
BAZAROV, I.P.

CARD 1 / 2

PA - 1474

PERIODICAL

The Equations with Variation Derivations and the Distribution  
Functions for Systems with Complicated Interaction.  
Dokl.Akad.Nauk, 110, fasc. 1, 38-41 (1956)  
Issued: 11 / 1956 reviewed: 11 / 1956

The determination of the distribution functions  $F_s(x_1, x_2, \dots, x_s)$  ( $s = 1, 2, \dots$ ) corresponding to the equilibrium is considerably simplified in the case of some systems by the introduction of a certain derivating functional. At first an expression for the GIBBS distribution for a system consisting of  $m$  kinds (with  $N_a$  particles of the  $a$ -th kind), which is in an exterior field, as well as an expression for the free energy of such a system are given. The free energy represents a functional of the exterior field  $\varphi(r)$ . The most useful normalization of the distribution functions is given. A binary distribution function is expressed fully by the unitary distribution functions by means of the variation derivation.

On the basis of the GIBBS distribution mentioned and on that of the definition of the distribution functions it is easy to determine a closed equation for the unitary distribution function with variation derivation. The equation for  $F_\alpha(x|\varphi)$  has the same form as in the case of the motion of the particles of a perfect gas in a given exterior field  $\Psi_a(x)$ . If, in the latter equation, the operator character of the exterior field is neglected, an equation is obtained which defines the distribution function  $F_\alpha(x|\varphi)$  for a system with COULOMB inter-

Dokl.Akad.Nauk, 110, fasc.1, 38-41 (1956)

CARD 2 / 2

PA - 1474

action. Furthermore, an equation for the determination of the distribution functions of systems with forces of short range is derived. The "complicated" interaction between charged particles consists of COULOMB forces ( $r > r_0$ ) and of forces with short range and the potentials  $\phi_0(r)$  and  $\phi_1(r)$ . Hitherto, however, the problem of the construction of those decompositions with which it could be possible to find the distribution functions of systems with an interaction by means of both kinds of forces remains open. Here a method for the determination of a distribution function by means of such "complicated" interaction  $\phi(r) = \phi_0(r) + \phi_1(r)$  is discussed. Expressions for the corresponding interaction energy as well as for the configuration integral and for the free energy of the system are given for the case that the system is in an exterior field  $\varphi(x)$ . The distribution functions are expressed by the variation derivation of the functional  $F(\varphi|f)$  according to  $\varphi(x)$ . This functional  $F(\varphi|f)$  can be expressed by the correlation distribution functions of the system for the potential  $\phi_0(r)$ . It is therefore necessary only to know  $F_s(x_1, \dots, x_s | \varphi)$  for the potential  $\phi_0(r)$ .

INSTITUTION: Moscow State University.

BAZAROV I. P.

AUTHOR  
TITLE

BAZAROV, I. P.

The Equations with Variation Derivations in the Theory  
of the Statistical Equilibrium. 56-5-16/55.

(Uraveniya s variatsionnymi proizvodnymi v teorii  
statisticheskogo ravnovesiya.- Russian,

Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 32, Nr 5,  
pp 1065-1077 (USSR)

PERIODICAL

ABSTRACT

The paper under review starts out from the functional  
for the free energy of a system with M kinds of particles  
in the exterior field  $\varphi(x)$ ; it yields closed equations  
with variation derivations for the unitary distribution  
function at different forms of the functional argument.  
With the aid of these derivations a method is derived  
for the determination of the correlation functions of  
the distribution for systems of particles with different  
character of the interaction: Coulomb's interaction,  
 $\Phi_0(r)$ , an interaction  $\Phi_1(r)$  quickly decreasing as the  
distance increases, and an interaction of the form  $\Phi(r) =$   
 $\Phi_0(r) + \Phi_1(r)$ .

CARD 1/3

The first chapter of the paper under review deals with  
the free energy as a functional, and with the distribution

The Equations with Variation Derivations in the Theory of  
the Statistical Equilibrium. 56-5-16/55

functions and the equations with variation derivations. The determination of the correlation distribution function  $F_s(x_1, x_2, \dots, x_s)$  ( $s = 2, 3, \dots$ ) is reduced to the task of determining the unitary distribution function and the corresponding variation derivations. The second chapter of the paper under review discusses a system of electrically charged particles which are in interaction with each other in accordance to Coulomb's law. The solution of the relevant equation leads to a value of the binary distribution function  $F_{ab}(x, y)$  which is identical with the first approximation for this function. Then the paper under review proceeds to discuss a system of particles with interaction forces of short range; also for this case a binary distribution function of the system is written down in second approximation. Finally, the last chapter of the present paper reviews an "addition theorem", i.e. method for the investigation of a system with an interaction of the kind of  $\Phi(r) = \Phi_0(r) + \Phi_1(r)$ .

CARD 2/3

50-5-10/55  
The Equations with Variation Derivations in the Theory  
of the Statistical Equilibrium.

(No reproduction).  
Moscow State University.  
-  
18.4. 1956.  
Library of Congress.

ASSOCIATION:  
PRESENTED BY:  
SUBMITTED:  
AVAILABLE:

CARD 3/3



AUTHOR BAZAROV, I.P. 56-5-28/55  
 TITLE The Statistical Theory of Systems of Charged Particles Under Consideration of the Repulsive Forces with Short Range.  
 (Statisticheskaya teoriya sistem zaryazhennykh chastits s ucheton korotkodeystviyushchikh sil ottalkivaniya - Russian)  
 PERIODICAL Zhurnal Eksperim. i Teoret.Fiziki, 1957, Vol 32, Nr 5, pp 1163-1170 (U.S.S.R.)  
 ABSTRACT In accordance with ideas contained in a paper by I.P.Bazarov (Zhurn.eksp. i teor.fiz., Vol 32, Nr 5, pp 1064 (1957)), the paper under review determines as thermodynamic potential the free energy  $F(\Phi)$  of a system of charged particles taking into account in their explicit form the repulsive forces of short range active between these particles. This makes it possible to construct the entire thermodynamics of such a kind of systems. The free energy of a system of charged particles: This chapter deals with a system consisting of  $M$  kinds of different charged particles (e.g. a solution of strong electrolytes) with the numbers  $N_a$  and the charges  $e_a$  ( $a=1,2,\dots,M$ ) of the particles of each kind, and with the interaction potential  $\Phi_{ab}(r) = \Phi_{ab}^0(r) + \Phi_{ab}^1(r)$ . In this context,  $r=r_{ab}$  denotes the distance between the different particles of the kinds  $a$  and  $b$ . The system as a whole is assumed, to be neutral, and the different particles are assumed to differ from each other only in their charges. The free energy of the system here under consideration is a functional of the outer field and of the potential of interaction between these particles. The second chap-

Card 1/2

The Statistical Theory of Systems of Charged Particles Under Consideration of the Repulsive Forces with Short Ranges. 56-5-28/55

ter of the paper under review deals with the binary distribution function and with the free energy of a system of particles in presence of a potential  $\Phi(r)=0$  at  $r<\sigma$ , and  $\Phi^0(r)=e_a e_b / \epsilon r$  at  $r>\sigma$ . The last chapter of the paper under review contains the final results and additional precise definitions. If the free energy  $F(\Phi^0)$  of a system of particles with the potential  $\Phi^0(r)$  of the 'distant' forces is known, then it is possible to compute the free energy  $F(\Phi)$  of the system of the charged particles taking into account the repulsive forces of short range. The expression obtained here for the free energy is a thermodynamic potential and therefore permits the determination of the thermal and also of the caloric properties of the system. (No reproductions);

|              |                         |
|--------------|-------------------------|
| ASSOCIATION  | Moscow State University |
| PRESENTED BY |                         |
| SUBMITTED    | 5.7.1957                |
| AVAILABLE    | Library of Congress.    |
| Card 2/2     |                         |

BAZAROV, I.P.

Correlative distribution functions for a system of particles with interaction in the form of the sum of long and short-range forces.  
Nauch. dokl. vys. shkoly; fiz.-mat.nauki no.1:110-113 '58.  
(MIRA 12:3)

1. Moskovskiy gosudarstvennyy universitet im. M.L. Lomonosova.  
(Statistical mechanics)

**PLATE 1** *Page 100*

Pilosebaceous system very prominent.  
Succinea-like nodules are numerous  
(pilosebaceous bodies) at base of  
in radiolaria and throughout  
and center) lower part of  
strata slip layer-01. 8.03

**Editorial Board:** E.A. Robinson, Editor  
 F.L. ...

[illegible]

THE UNIVERSITY OF CHICAGO  
CHICAGO, ILLINOIS

the 50th anniversary of Lenin's death. The ideas are derived from the materialism. One of the leading ideas. No personalities are mentioned.

**TABLE 2. OF CONTENTS**

**PROMANTRA**

**RESEARCH**

|    |                                                                                                        |
|----|--------------------------------------------------------------------------------------------------------|
| 63 | Quantity of Matter and the Principle of Conservation of Matter                                         |
| 61 | Orekhovskoye, N.P., and A.I. Vysotsky. Is the First Newtonian Law of Motion a Corollary of the Second? |
| 85 | Soboleva, L.I. Principle of Conservation and Transformation of Matter and the Law of Causality         |

**ПАРТ II (НАСТУПЛЕННЯ)**

|                 |                                                                                         |     |
|-----------------|-----------------------------------------------------------------------------------------|-----|
| Feferberg, L.A. | Algebraic Roots of Differential Calculus                                                | 94  |
| Myerberg, T.G.  | Dissonant Views of Materialism and Idealism on the Theory of Probability                | 102 |
| Mitrovic, B.V.  | Frage's Contributions to the Philosophy of Mathematics                                  | 110 |
| Shimozono, A.D. | Leibniz's Theorem on the Correlation Between Mathematics and Logic (Mathematical Logic) | 114 |

**PAGE III (CONTINUED)**

|     |                                                                       |
|-----|-----------------------------------------------------------------------|
| 213 | Thakur, P. K. M. I. Molecules of the Concept of "Chemical Substances" |
| 227 | Thakur, P. K. M. I. Certain Fundamental Concepts of Thermodynamics    |
| 233 | Thakur, P. K. M. I. Problem of Albumen (its Chemical Structure)       |
|     | Thakur, P. K. M. I. Library of Congress (G303.F7)                     |

4/8 PM

03-22-98  
05/24/98

BAZAROV, I.P.

Methodological problems in a thermodynamics course. Ist.i metod.  
est.nauk no.1:98-114 '60. (MIRA 14:10)  
(Thermodynamics)

32279

S/188/60/000/02/01/006  
B020/B054

5.4210

AUTHORS: Bazarov, I. P., Glasko, V. B.

TITLE: The Binary Distribution Function for a Liquid and the Crystallization Criterion

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 2, pp. 3 - 4

TEXT: As opposed to gases, the particles in liquids are situated within the range of van der Waals' forces. The potential of intermolecular interaction is assumed to be determined by the function  $\Phi(r)$ , and divisible into a long-range part  $\Phi^0(r)$  and a short-range part  $\Phi^1(r)$ :

$\Phi(r) = \Phi^0(r) + \Phi^1(r)$ . According to Ref. 1, the expressions

$\frac{1}{\theta} \Phi^0(r) = v\psi$  and  $\psi(r) = \frac{1}{v\theta} \Phi^0(r)$  (1) apply to the long-range forces

( $v$  is the particle volume, and  $\theta = kT$ ); equations (2) and (3) are obtained for the binary distribution function in first approximation (Refs. 1,2). When solving equation (3) by means of the Fourier integrals,

Card 1/4

82279

The Binary Distribution Function for a Liquid and the Crystallization Criterion

S/188/60/000/02/01/006  
B020/B054

the following equation is obtained:

$$F_2(r|\Phi^0) = 1 - \frac{2}{\pi\theta r} \int_0^\infty \frac{\sin \nu r \int_0^\infty \Phi^0(r) r \sin \nu r dr}{1 + (4\pi/\nu\theta) \int_0^\infty \Phi^0(r) r \sin \nu r dr} d\nu \quad (4).$$

The denominator in the integral (4) at  $\theta < \theta_0 = kT_0$  vanishes for any value of  $\nu$ . The temperature  $T_0$  is determined from the condition

$$T_0 = -[4\pi/\nu k] \min \min I(\nu) \quad (5), \text{ where } I(\nu) = \int_0^\infty \Phi^0(r) \frac{\sin \nu r}{\nu r} r^2 dr.$$

Equation (4) for the binary distribution function of liquids applies to temperatures  $T > T_0$ . Condition (5) determines the phase transition - the crystallization of the liquid. It only applies if  $\min \min I(\nu) < 0$ . If  $\Phi^0(r)$  changes its sign with  $r$ , the minimum minimum of the integral  $I(\nu)$  in dependence on the form of  $\Phi^0(r)$  may be attained not only at  $\nu = 0$  but also with other  $\nu$ . If  $\min \min I(\nu)$  appears at  $\nu = 0$ ,

Card 2/4

82279

The Binary Distribution Function for a  
Liquid and the Crystallization Criterion

S/188/60/000/02/01/006  
B020/B054

condition (5) agrees with the crystallization criterion of A.A. Vlasov

(Ref. 3):  $T_0 = -(4/kv) \int_0^{\infty} \Phi^0(r) r^2 dr$  (6), but with the principal

difference that Vlasov puts the total potential of intermolecular interaction under the integral whereas (5) and (6) put only the potential  $\Phi^0(r)$  of the long-range forces under the integral. This peculiarity of condition (5) suggests that the crystallization of the liquid is determined by the long-range forces of intermolecular interaction whereas the short-range forces are only of importance to the determination of the lattice constant. If the function  $\Phi^0(r)$  is chosen in the way indicated and is to be included in the group which depends on some parameter  $\alpha$ ,  $\min \min I(\nu) = I_1$  will be really attained at  $\nu = \nu_1 = 0$  for any value  $\alpha = \alpha_1$ . It may, however, be that a value  $\alpha = \alpha_2$  is indicated at which  $\min \min I(\nu)$  of the same quantity  $I_1$  is attained at  $\nu = \nu_2(\alpha_2) > 0$ . Thus, it is evident that there is an  $\alpha = \bar{\alpha}$  at which  $\min \min I(\nu) = I(\nu_1) = I(\nu_2)$ ; in this case, it has the highest possible value for a chosen

Card 3/4



82279

The Binary Distribution Function for a  
Liquid and the Crystallization Criterion

S/188/60/000/02/01/006  
B020/B054

$\Phi^0(r)$ . As had been stated in Ref. 4, the division of  $\Phi(r)$  into a long-range component  $\Phi^0(r)$  and a short-range component  $\Phi^1(r)$  is not unique, and must be carried out on the basis of additional physical considerations. With the use of  $\Phi^0(r)$  found in this way, the crystallization temperature  $T_0$  can be divided into  $\Phi^0(r)$  and  $\Phi^1(r)$ . This also applies to  $\Phi(r)$  when the experimental  $T_0$  is substituted into (5). There are 4 Soviet references.

ASSOCIATION: Kafedra statisticheskoy fiziki i mekhaniki (Chair of Statistical Physics and Mechanics) ✓

SUBMITTED: April 15, 1959

Card 4/4

18.7510

2508, 1146, 1045

87395

S/020/60/135/006/009/037  
B019/B056

AUTHOR: Bazarov, I. P.

TITLE: The Theory of Melting

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 6,  
pp. 1351-1353

TEXT: It has hitherto not been possible to find a satisfactory solution to the statistical problem of crystallization. In order to determine the temperature of crystallization and the thermodynamical functions of the crystal near the transition point, an approach is made, not from the liquid side, but from the side of the crystalline phase. Here, N. N. Bogolyubov's variational principle and a simplified Einstein model of the crystal are used. This model considers a crystal to be a number of particles which, oscillate separately round the position of equilibrium with the same frequency. With an increase of temperature, the frequency of these oscillations increases. An expression for the upper limit of free energy,  $F$ , is found, and, by determining the minimum of  $\partial F / \partial \omega = 0$ , the relation

Card 1/3

87395

The Theory of Melting

S/020/60/135/006/009/037  
B019/B056

$$1 + \frac{3u\sigma^2\omega^2}{a\theta^2} \sqrt{\frac{m}{\pi\theta}} \int_0^b B(r) e^{-m\omega^2 r^2/4\theta} r dr -$$

$$\frac{u\sigma^2 m^2 \omega^5}{2a\theta^3} \sqrt{\frac{m}{\pi\theta}} \int_0^b B(r) e^{-m\omega^2 r^2/4\theta} r^3 dr = 0 \quad (11)$$

is obtained. That value of  $T$  is looked upon as the melting temperature  $T_m$ , at which the solutions of (11) begin to vanish. The differences found here between the values of  $T_m$  calculated from (11) and the experimental values of  $T_m^{\text{exp}}$  are explained by the rough approximation of the Einstein model.  $\omega$  is the particle frequency;  $N$  - Avogadro number;  $\theta = kT$ ,  $u$  and  $\sigma$

Card 2/3

87395

The Theory of Melting

S/020/60/135/006/009/037  
B019/BD56

are parameters with the dimension of energy and length, respectively;  $m$ ,  $u_0$ , and  $b$  denote the mass, the energy and the dimension of the oscillation range of the atom. The author thanks Academician N. N. Bogolyubov for discussions, and V. B. Glasko for his assistance in computations. There are 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 9, 1960, by N. N. Bogolyubov, Academician

SUBMITTED: June 29, 1960

Card 3/3

BAZAROV, Ivan Pavlovich; LIVSHITS, B.L., red.; BRUDNO, E.F., tekhn. red.

[Thermodynamics] Termodinamika. Moskva, Gos. izd-vo fiziko-  
matem. lit-ry, 1961. 292 p.  
(MIRA 14:7)

1. Fizicheskiy fakul'tet, Kafedra statisticheskoy fiziki Moskov-  
skogo gosudarstvennogo universiteta (for Bazarov)  
(Thermodynamics)

S/188/62/000/005/005/008  
B102/B108

AUTHOR: Bazarov, I. P.

TITLE: Asymptotically exact solution for the model Hamiltonian  
in the theory of crystals

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika,  
astronomiya, no. 5, 1962, 42 - 45

TEXT: In a previous paper (DAN SSSR, 140, 85, 1961) the author showed that  
if the Hamiltonian of a dynamic system of spin-zero particles with binary  
interaction is expressed in the form

$$H = \sum_k T(k) a_k^+ a_k + \frac{1}{2V} \sum_{k, k', q} \lambda(q) a_{k+q}^+ a_k a_{k'}^+ a_{k'-q} \quad (1)$$

or

$$H = \sum_k T(k) a_k^+ a_k + \frac{1}{2V} \sum_q \lambda(q) p_q p_{-q} \quad (2)$$

Card 1/6

$$T(k) = \frac{k^2}{2m} - \mu.$$

Asymptotically exact solution for...

S/188/62/000/005/005/008  
B102/B108

the vector  $q$  assumes values which are not quasicontinuous but discrete, corresponding to the inverse lattice constant

$$\vec{q} = 2\pi(m_1\vec{b}_1 + m_2\vec{b}_2 + m_3\vec{b}_3), \quad (3).$$

$H = H_0 + H_1$ .  $b_i$  are the fundamental vectors of the inverse lattice,  $m_i$  are integers;  $k$  is the momentum,  $a_k^+$  and  $a_k$  are production and annihilation operators,  $\mu$  is the chemical potential,  $\lambda(q)$  is the Fourier component of the potential energy  $\phi(r)$  of the interaction. The method of Green's functions, developed in the previous paper, is applied to (2) so as to obtain a chain of equations for these. If  $H_0$  is diagonalized by means of a linear canonic transformation  $a_k = \sum_v g_{kv} \alpha_v$  with the new Fermi amplitudes  $\alpha_v$  and the orthogonal functions  $g_{kv}$ , this leads to an equation with the self-consistent potential  $V(x)$  for the functions  $g_v = \sum_k g_{kv} e^{ikx}$ .

Card 2/6

Asymptotically exact solution for...

S/188/62/000/005/005/008  
B102/B108

$$T\left(\frac{\partial}{\partial x}\right)\varphi_v(x) + V(x)\varphi_v(x) = E(v)\varphi_v(x),$$

$$V(x) = \frac{1}{2} \sum_q \lambda(q) (c_q e^{-iqx} + c_{-q} e^{iqx}), \quad (5).$$

$$H_0 = \sum_v E(v) a_v^\dagger a_v + U, \quad U = \text{const.}$$

Its solution has the form  $\varphi_v(x) = e^{i(v,x)} u_v(x)$ , wherein  $u_v(x)$  is a lattice-periodic function

$$u_v(x) = \sum_q A_{q,v} e^{i(q,x)},$$

$$\varphi_v(x) = \sum_q A_{q,v} e^{i(v+q,x)} \quad ; \quad \varphi_{k,v} = \sum_q A_{q,v} \delta(v+q-k).$$

For all  $k-k' \neq q$ ,

Card 3/6



Asymptotically exact solution for...

S/188/62/000/005/005/008  
B102/B108

$$\langle a_k^+ a_k \rangle_0 = \sum_j \varphi_{kj}^* \varphi_{kj} \langle a_j^+ a_j \rangle_0 = 0$$

$$\langle a_k^+ a_k \rangle = 0, \quad (6)$$

If the (retarded or advanced) two-time Green functions  $\Gamma(t-t') = \langle\langle A(t); B(t') \rangle\rangle$  (7) are considered where

$$A(t) = \dots a_{k_j}(t) \dots a_{k_s}^+(t) \dots, \quad B(t') = \dots a_{k_p}(t') \dots a_{k_r}^+(t') \dots$$

then (7) can be represented by

$$i \frac{\partial \Gamma}{\partial t} = \delta(t-t') \langle [A(t); B(t')] \rangle + \langle\langle i \frac{dA}{dt}; B(t') \rangle\rangle$$

Card 4/6

Asymptotically exact solution for...

S/188/62/000/005/005/008  
B102/B108

or

$$\begin{aligned} i \frac{\partial}{\partial t} \ll \dots a_{k_j}(t) \dots a_{k_s}^+(t) \dots; \dots a_{k_p}(t') \dots a_{k_r}^+(t') \dots \gg = \\ = \delta(t-t') \langle \dots a_{k_j}(t) \dots a_{k_s}^+(t) \dots; \dots a_{k_p}(t') \dots a_{k_r}^+(t') \dots \rangle + \\ + \sum_j \ll \dots i \frac{da_{k_j}}{dt} \dots a_{k_s}^+(t) \dots; \dots a_{k_p}(t') \dots a_{k_r}^+(t') \dots \gg + \\ + \sum_i \ll \dots a_{k_j}(t) \dots i \frac{da_{k_i}^+}{dt} \dots; \dots a_{k_p}(t') \dots a_{k_r}^+(t') \dots \gg. \end{aligned} \quad (8)$$

If  $i(da_{k_j}/dt)$  is replaced by the values taken from the equation of motion

$$\begin{aligned} i \frac{da_k}{dt} = T(k)a_k + \frac{1}{2} \sum \lambda(q) (\beta_q a_{k+q} + \beta_{-q} a_{k-q}) \\ + \frac{1}{2V} \sum_q \lambda(q) a_k (\beta_q - \frac{1}{V} \epsilon_q - \frac{1}{V} \sum_k a_{k+q}^+ a_k), \end{aligned} \quad (4).$$

Card 5/6

Asymptotically exact solution for...

S/188/62/000/005/005/008  
B102/B108

of the model Hamiltonian (1) and if the same is done with the derivatives of the production operators, the result is a chain of equations for the Green functions. It is shown that this chain of equations can be satisfied, with an accuracy of terms of order  $1/V$ , if the averaging in (7) is carried out not over the Hamiltonian  $H$  but over  $H_0$ . Thus (for  $N \rightarrow \infty$ ,  $V \rightarrow \infty$  and  $N/V = \text{const}$ ) the Green function can be proved to be an asymptotically exact solution to equation (8), i.e. all Green functions for  $H$  and  $H_0$  coincide when  $V \rightarrow \infty$ . ✓

ASSOCIATION: Kafedra statisticheskoy fiziki i mekhaniki (Department of Statistical Physics and Mechanics)

SUBMITTED: December 29, 1961

Card 6/6

BAZAROV, I.P.

Asymptotically accurate solution to a model Hamiltonian  
in the theory of crystals. Vest. Mosk. un. Ser.3: Fiz., astr.  
17 no.5:42-45 8-0'62. (MIRA15:10)

1. Kafedra statisticheskoy fiziki i mekhaniki Moskovskogo  
universiteta.

(Quantum theory) (Lattice theory) (Potential, Theory of)